

## REMARKS

This is a full and timely response to the final Office Action of February 1, 2005. Upon entry of this Third Response, claims 1-30 are pending in this application. Reexamination, reconsideration, and allowance of the application and all presently pending claims are respectfully requested.

### Response to §103 Rejections

In order for a claim to be properly rejected under 35 U.S.C. §103, the combined teachings of the prior art references must suggest all features of the claimed invention to one of ordinary skill in the art. See, *e.g.*, *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981). In addition, “(t)he PTO has the burden under section 103 to establish a *prima facie* case of obviousness.” *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988).

### Claim 1

Claim 1 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Kinjo* (U.S. Patent No. 6,445,819) and *Hillebrand* (U.S. Patent No. 6,571,003). Claim 1 reads as follows:

1. An automatic image enhancement system, comprising:  
memory for storing digital data that defines a graphical image;  
a face detector configured to analyze said digital data and to automatically identify facial data within said digital data stored in said memory; and  
an image enhancer configured to analyze said facial data identified by said face detector and to automatically identify a portion of said facial data that defines a particular facial feature, said image enhancer further configured to automatically manipulate said portion for enhancing an appearance of said facial feature within said graphical image, ***wherein said image enhancer is configured to initiate, without user intervention, manipulation of said portion for enhancing said appearance in response to identification of said portion by said image enhancer.*** (Emphasis added).

Applicant respectfully asserts that *Kinjo* in combination with *Hillebrand* is inadequate to suggest at least the features of claim 1 highlighted hereinabove. Thus, the 35 U.S.C. §103 rejection of claim 1 is improper.

In this regard, it is alleged in the Office Action that *Kinjo* discloses several of the features of pending claim 1. However, it is candidly admitted that *Kinjo* fails to disclose:

“automatically identifying a portion of said facial data that defines a particular facial feature and automatically enhancing an appearance of said facial feature within said graphical image, wherein said image enhancer is configured to initiate, without user intervention, manipulation of said portion for enhancing said appearance in response to identification of said portion by said image enhancer.”

It is further alleged in the Office Action that such features are disclosed by *Hillebrand*.

It appears that *Hillebrand* discloses a system for detecting facial defects. *Hillebrand* teaches that, after a defect is detected, a controller 200 and display 108 “may generate a simulated image showing an improvement and/or worsening to the defect areas.” Column 11, lines 46-49. However, it appears that *Hillebrand* suggests initiating the display of such “improvement” based on user intervention. In particular, *Hillebrand* specifically teaches that “Simulating improvements may be useful when the operator is recommending a treatment using a product which eliminates and/or hides skin defects to show the analyzed person the potential benefits of the product(s).” Column 11, lines 53-57. Such a section of *Hillebrand* suggests that display of the “improvement” is to be initiated based on whether a user is recommending a treatment product and possibly which treatment product is being recommended. *Hillebrand* further teaches that:

“The program begins at step 1502 where ***the operator enters a magnitude for defect improvement via the input device 212.*** For example, if the overall percentile is determined to be the fortieth percentile, then the operator may choose to simulate an improvement of ten percentile points to create an ‘average’ fiftieth percentile image.” Column 12, lines 4-9. (Emphasis added).

Thus, *Hillebrand* fails to teach and, in fact, teaches against “wherein said image enhancer is configured to initiate, ***without user intervention***, manipulation of said portion for enhancing said appearance in response to identification of said portion by said image enhancer,” as described by claim 1. (Emphasis added). A reference “teaches away” from the claimed invention and should not be used to reject the claimed invention under §103 “when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Gurley*, 2 F.3d 551, 31 U.S.P.Q.2d 1130, 1131 (Fed. Cir. 1994).

It is nevertheless argued in the Office Action that:

“With regard to the amended part of the claim underlined above, Hillebrand also discloses wherein the image enhancement occurs without any user intervention (column 6, lines 15-16, column 7, lines 17-21 and 65-66, column 8, lines 33-36, 46-51 and 63-65, column 9, lines 5-7, 15-17 and 26-28, column 10, lines 51-52, column 12, lines 2-3 and 10-14). Hillebrand consistently states, ‘in one embodiment the steps are performed by the controller 200.’ This declaration is interpreted as the steps in the process take place entirely without user input based on data already programmed into the image processor or controller. Although Hillebrand allows for user input at nearly every step of the process, it is also indicated clearly that in one embodiment, the steps are performed by the controller.”

*Hillebrand* apparently does disclose an embodiment in which much of the functionality being performed is automatic. However, there is not a single embodiment disclosed or suggested in which the simulation described in columns 11 and 12 of *Hillebrand* is automatically initiated in response to the alleged “identification” of an image portion.

In particular, at column 6, lines 15-16, it is asserted in *Hillebrand* that “(i)n one embodiment, the steps are performed by the controller 200.” The described “steps” refer to the ones depicted in Figure 6 “to determine sub-images.” See column 6, lines 11-15. However, establishing that a “step” is performed by a controller is insufficient for establishing that the “step” is “initiated without user intervention” in response to a particular event, such as the alleged “identification.” Indeed, a “step” may be “performed” by a

controller and yet “initiated” by a user input. Thus, the foregoing teaching at column 6, lines 15-16, of *Hillebrand* is insufficient for suggesting that the “steps” of Figure 6 are “initiated without user intervention.” In fact, step 612 of Figure 6 is described by *Hillebrand* as “operator selects several landmarks on the image.” See Figure 6. Applicant fails to see how such a step can be initiated or performed “without user intervention.”

Applicant observes that several of the other cites provided in the Office Action (e.g., column 7, lines 65-66, and column 10, lines 51-52) similarly teach that various “steps” are “performed by the controller 200.” For at least the above reasons, Applicant submits that such cites are insufficient for suggesting that the described steps are “initiated without user intervention” in response to a particular event, such as the alleged “identification.” In fact, regarding the “steps” referred to at column 12, lines 2-3, it is specifically asserted in *Hillebrand* that such “steps” are initiated by an “operator” that “enters a magnitude for defect improvement.” See column 12, lines 4-5. Moreover, when *Hillebrand* is properly viewed as whole, it becomes clear that the cited teachings referring to “steps” being performed by the “controller” are insufficient for suggesting that such “steps” are to be “initiated without user intervention.” “It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.” *In re Wesslau*, 353 F.2d 238, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965).”

At column 7, lines 17-21, it is asserted in *Hillebrand* that “(i)f fully automatic sub-image determination is selected, at step 608 the controller 200 determines...” Such a teaching only suggests that “sub-image determination” is “fully automatic” and is notably silent as to any of the other “steps,” such as the simulation described in columns 11 and 12 of *Hillebrand*. Further, as set forth above, establishing that a step is performed by the controller

200 (e.g., is “fully automatic”) is insufficient for establishing that the step is *initiated* “without user intervention” in response to a particular event. Thus, the foregoing cite in *Hillebrand* is insufficient for establishing that any of the steps of Figure 6 are *initiated* “without user intervention” in response to the alleged “identification.”

Further, at column 8, lines 33-36, lines 46-51, and 63-65, and column 9, lines 5-7, 15-17, and 26-28, *Hillebrand* describes numerous “steps” that are apparently performed by the controller 200. However, as set forth above, establishing that a “step” is performed by a controller 200 is insufficient for establishing that the step is initiated “without user intervention” in response to a particular event. Thus, the foregoing cites in *Hillebrand* are insufficient for establishing that any of the described “steps” are *initiated* “without user intervention” in response to the alleged “identification.”

For at least the above reasons, Applicant asserts that the combination of *Kinjo* and *Hillebrand* fails to suggest at least the features of claim 1 highlighted above. Accordingly, the 35 U.S.C. §103 rejection of claim 1 should be withdrawn.

### **Claims 2-8 and 23**

Claims 2, 3, 5-8 and 23 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kinjo* and *Hillebrand*. Further, claim 4 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kinjo* and *Hillebrand* in view of *Lobo* (U.S. Patent No. 5,835,616). Applicant submits that the pending dependent claims 2-8 and 23 contain all features of their respective independent claim 1. Since claim 1 should be allowed, as argued hereinabove, pending dependent claims 2-8 and 23 should be allowed as a matter of law for at least this reason. *In*

*re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, these dependent claims recite patentably distinct features and/or combinations of features that make them allowable, notwithstanding the allowability of their base claim 1.

For example, claim 23 recites “wherein said graphical image contains a plurality of faces, and wherein said face detector is configured to automatically detect each of said faces and said image enhancer is configured to automatically enhance each of said detected faces.” For at least the reasons set forth hereinbelow in the arguments for allowance of claim 28, Applicant respectfully asserts that the cited art fails to suggest the foregoing features of claim 23.

In rejecting claim 23, it is asserted in the Office Action that “Kinjo discloses detecting multiple face candidate regions (Fig. 2, element 102 and Fig. 3).” Applicant observes, however, that Figure 3 shows multiple “face candidate regions” A-D but only one face. Thus, a detection of a plurality of “face candidate regions” in Figure 3 does not appear to constitute a detection of “a plurality of faces,” as described by claim 23. Moreover, Applicant respectfully asserts that the Office Action fails to establish a *prima facie* case of obviousness with respect to claim 23, and the 35 U.S.C. §103 rejection of claim 23 should be withdrawn, notwithstanding the allowability of independent claim 1.

### Claim 9

Claim 9 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Kinjo* and *Hillebrand*. Claim 9 reads as follows:

9. An automatic image enhancement system, comprising:  
means for storing digital data that defines a graphical image;  
face detecting means for analyzing said digital data and for automatically identifying facial data within said digital data stored in said storing means; and  
image enhancing means for analyzing said facial data identified by said face detecting means, for automatically identifying a portion of said facial data that defines a particular facial feature, and for ***automatically manipulating, upon identification of said portion by said image enhancing means, said portion to enhance an appearance of said facial feature within said graphical image.*** (Emphasis added).

As described above, *Hillebrand* teaches a system that enhances a facial image. However, for at least the reasons set forth above in the arguments for allowance of pending claim 1, Applicant asserts that such enhancement is apparently based on user intervention once the facial image has been detected. Thus, *Hillebrand* fails to suggest and, in fact, teaches against automatically manipulating a portion of facial data defining a particular facial feature “upon identification of said portion by said image enhancing means,” as described by claim 9. Further, Applicant asserts that the foregoing deficiency in *Hillebrand* is not satisfied by *Kinjo*. Accordingly, Applicant respectfully asserts that the alleged combination of *Kinjo* and *Hillebrand* fails to suggest each feature of claim 9, and the 35 U.S.C. §103 rejection of this claim should, therefore, be withdrawn.

### Claim 10

Claim 10 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Kinjo* and *Hillebrand*. Claim 10 reads as follows:

10. A method for enhancing graphical images, comprising:  
receiving digital data defining a graphical image;  
automatically detecting facial data within said digital data;  
searching said facial data for data that defines a particular facial feature;  
automatically identifying, based on said searching step, a set of data defining said particular facial feature; and  
***automatically manipulating said set of data in response to said identifying, wherein said manipulating is initiated without user intervention.***  
(Emphasis added).

For at least the reasons set forth hereinabove in the arguments for allowance of claim 1, Applicant respectfully asserts that the cited art fails to suggest at least the features of claim 10 highlighted above. Accordingly, the 35 U.S.C. §103 rejection of claim 10 should be withdrawn.

### Claims 11-16 and 25

Claims 11, 12, 14-16 and 25 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kinjo* and *Hillebrand*. Further, claim 13 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kinjo* and *Hillebrand* in view of *Lobo*. Applicant submits that the pending dependent claims 11-16 and 25 contain all features of their respective independent claim 10. Since claim 10 should be allowed, as argued hereinabove, pending dependent claims 11-16 and 25 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, these dependent claims recite patentably distinct features and/or combinations of features that make them allowable, notwithstanding the allowability of their base claim 10.



For example, claim 25 recites “wherein said graphical image comprises a plurality of faces, wherein said detecting comprises detecting each of said faces, and wherein said method comprises enhancing each of said faces based on said manipulating.” For at least the reasons set forth herein in the arguments for allowance of claims 23 and 28, Applicant respectfully asserts that the cited art fails to suggest the foregoing features of claim 25. Accordingly, the 35 U.S.C. §103 rejection of claim 25 should be withdrawn, notwithstanding the allowability of independent claim 10.

### **Claim 18**

Claim 18 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Kinjo* and *Hillebrand*. Claim 18 reads as follows:

18. An automatic image enhancing system, comprising:  
memory configured to store digital data representative of a graphical image;  
a face detector configured to automatically identify facial data in said digital data; and  
an image enhancer configured to automatically locate a portion of said facial data defining a skin blemish, ***wherein said image enhancer is further configured to automatically manipulate, upon locating said portion, said portion for enhancing an appearance of said skin blemish within said graphical image.*** (Emphasis added).

For at least the reasons set forth hereinabove in the arguments for allowance of claim 9, Applicant respectfully asserts that the cited art fails to suggest at least the features of claim 18 highlighted above. Accordingly, the 35 U.S.C. §103 rejection of claim 18 should be withdrawn.

### Claims 19, 20, and 26

Claims 19, 20, and 26 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kinjo* and *Hillebrand*. Applicant submits that the pending dependent claims 19, 20, and 26 contain all features of their respective independent claim 18. Since claim 18 should be allowed, as argued hereinabove, pending dependent claims 19, 20, and 26 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, these dependent claims recite patentably distinct features and/or combinations of features that make them allowable, notwithstanding the allowability of their base claim 18.

For example, claim 26 recites “wherein said face detector is configured to identify a plurality of faces in said graphical image, and wherein said image enhancer is configured to automatically enhance each of said detected faces.” For at least the reasons set forth herein in the arguments for allowance of claims 23 and 28, Applicant respectfully asserts that the cited art fails to suggest the foregoing features of claim 26. Accordingly, the 35 U.S.C. §103 rejection of claim 26 should be withdrawn, notwithstanding the allowability of independent claim 18.

### Claim 21

Claim 21 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over *Kinjo* and *Hillebrand*. Claim 21 reads as follows:

21. An automatic image enhancing method, comprising:  
storing digital data representative of a graphical image;  
automatically identifying facial data in said digital data;  
automatically locating a portion of said facial data defining a skin  
blemish; and  
***manipulating said portion for enhancing an appearance of said  
blemish within said graphical image, wherein said manipulating is  
automatically initiated based on said locating.*** (Emphasis added).

For at least the reasons set forth hereinabove in the arguments for allowance of claim 1, Applicant respectfully asserts that the cited art fails to suggest at least the features of claim 21 highlighted above. Accordingly, the 35 U.S.C. §103 rejection of claim 21 should be withdrawn.

### **Claims 22, 23, and 27**

Claims 22, 23, and 27 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kinjo* and *Hillebrand*. Applicant submits that the pending dependent claims 22, 23, and 27 contain all features of their respective independent claim 21. Since claim 21 should be allowed, as argued hereinabove, pending dependent claims 22, 23, and 27 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, these dependent claims recite patentably distinct features and/or combinations of features that make them allowable, notwithstanding the allowability of their base claim 21.

For example, claim 27 recites “wherein said identifying comprises identifying a plurality of faces in said graphical image, and wherein said method comprises automatically enhancing each of said faces based on said manipulating.” For at least the reasons set forth herein in the arguments for allowance of claims 23 and 28, Applicant respectfully asserts that the cited art fails to suggest the foregoing features of claim 27. Accordingly, the 35 U.S.C. §103 rejection of claim 27 should be withdrawn, notwithstanding the allowability of independent claim 21.

#### Claim 24

Claim 24 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kinjo* and *Hillebrand*. Applicant submits that the pending dependent claim 24 contains all features of its independent claim 9. Since claim 9 should be allowed, as argued hereinabove, pending dependent claim 24 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, this dependent claim recites patentably distinct features and/or combinations of features that make it allowable, notwithstanding the allowability of its base claim 9.

In this regard, claim 24 recites “wherein said graphical image contains a plurality of faces, wherein said face detecting means is configured to automatically detect each of said faces, and wherein said image enhancing means is configured to automatically enhance each of said detected faces.” For at least the reasons set forth herein in the arguments for allowance of claims 23 and 28, Applicant respectfully asserts that the cited art fails to suggest the foregoing features of claim 24. Accordingly, the 35 U.S.C. §103 rejection of claim 24 should be withdrawn, notwithstanding the allowability of independent claim 9.

#### Claim 28

Claim 28 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kinjo* and *Hillebrand*. Claim 28 presently reads as follows:

28. An automatic image enhancement system, comprising:  
memory for storing digital data that defines a graphical image, ***said graphical image containing a plurality of faces;***  
***a face detector configured to detect each of said faces;*** and  
***an image enhancer configured to analyze said faces, said image enhancer further configured to automatically detect and enhance at least one respective facial feature in each of said faces.*** (Emphasis added).

Applicant respectfully asserts that the cited art fails to suggest at least the features of claim 28 highlighted above. Thus, the 35 U.S.C. §103 rejection of claim 28 is improper.

In this regard, it is asserted in the Office Action that *Kinjo* discloses a “face detector,” but it is candidly admitted in the Office Action that *Kinjo* fails to disclose an “image enhancer,” as recited by claim 28. It is then asserted in the Office Action that such an “image enhancer” is disclosed by *Hillebrand*. Applicant observes, however, that *Hillebrand* suggests enhancing only a single face within a graphical image and, in particular, fails to suggest enhancing multiple faces. Thus, neither *Kinjo* nor *Hillebrand* suggests “an image enhancer... automatically configured to detect and enhance at least one facial feature *in each of said faces*,” as described by claim 28. (Emphasis added).

For at least the reasons set forth above, Applicant respectfully asserts that the combination of *Kinjo* and *Hillebrand* is inadequate for rejecting claim 28 under 35 U.S.C. §103. Accordingly, the 35 U.S.C. §103 rejection of claim 28 should be withdrawn.

#### Teaches Away

Applicant respectfully asserts that, when *Hillebrand* is properly viewed as whole, it becomes apparent that *Hillebrand* teaches away from at least the features of claim 28 highlighted above and, therefore, should not be used to reject claim 28 under 35 U.S.C. §103. In this regard, “prior art references before the tribunal must be read as a whole and consideration *must* be given where the references diverge and teach away from the claimed invention.” *Akzo N.V. v. U.S. International Trade Commission*, 808 F.2d 1471, 1481, 1 U.S.P.Q.2d 1291 (Fed. Cir. 1986), *cert. denied*, 482 U.S. 909 (emphasis added).

Throughout the Description of the Preferred Embodiments, *Hillebrand* consistently refers to a facial image of a single person. See, e.g., column 3, line 67; column 4, lines 61-62; column 5, lines 11-12, 27, 39, 43, 50-51, and 56-57; column 8, line 34; and column 11,

line 56. Further, each graphical image depicted in *Hillebrand* is a facial close-up of a single person. See Figures 5, 7, 11-14, and 16. In addition, at column 3, lines 52-57, and column 4, line 63, through column 5, line 3, *Hillebrand* describes various steps that should be taken to improve the quality of image acquisition of “the person’s face.” The combination of all of the foregoing teachings in *Hillebrand* suggests the acquisition of a single facial image.

Indeed, *Hillebrand* specifically teaches that “the lights 118 and the digital image generator 120 (e.g., a camera) may be positioned after the person’s face is positioned in order to maximize image quality.” Column 4, lines 64-67. One of ordinary skill in the art would realize that such steps are most effective when they are applied to a single face since the lighting provided by the same light source or sources will likely provide different results for different faces. Further, it is readily apparent that including multiple faces in the same image, unlike Figures 11-14, for example, would likely result in reduced resolution for each face thereby decreasing the “image quality” of the face of the “analyzed person.” Moreover, one of ordinary skill in the art, upon properly considering all of the teachings of *Hillebrand*, would be discouraged from acquiring multiple faces in the same graphical image, and *Hillebrand*, therefore, teaches away from the claimed invention, as defined by pending claim 28. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Gurley*, 2 F.3d 551, 31 U.S.P.Q.2d 1130, 1131 (Fed. Cir. 1994).

For at least the above reasons, Applicant respectfully asserts that *Hillebrand* teaches away from the features of claim 28 and, therefore, should not be used to reject claim 28 under 35 U.S.C. §103.

### Claim 29

Claim 29 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kinjo* and *Hillebrand*. Claim 29 presently reads as follows:

29. An automatic image enhancing method, comprising:  
storing digital data that defines a graphical image;  
***automatically detecting a plurality of faces in said graphical image;***  
***automatically analyzing said faces to detect at least one respective***  
***facial feature in each of said faces;*** and  
***automatically enhancing, based on said analyzing, at least one***  
***respective facial feature in each of said faces.*** (Emphasis added).

For at least the reasons set forth hereinabove in the arguments for allowance of claim 28, Applicant respectfully asserts that the cited art fails to suggest at least the features of claim 29 highlighted above. Accordingly, the 35 U.S.C. §103 rejection of claim 29 should be withdrawn.

### Claim 30

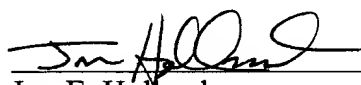
Claim 30 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kinjo* and *Hillebrand*. Applicant submits that the pending dependent claim 30 contains all features of its independent claim 29. Since claim 29 should be allowed, as argued hereinabove, pending dependent claim 30 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

**CONCLUSION**

Applicant respectfully requests that all outstanding objections and rejections be withdrawn and that this application and all presently pending claims be allowed to issue. If the Examiner has any questions or comments regarding Applicant's response, the Examiner is encouraged to telephone Applicant's undersigned counsel.

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